AMENDMENTS TO THE CLAIMS

Listing of Claims

The following listing of claims replaces all prior versions and listings of claims in the application.

1. (Previously presented): A communication method comprising the steps of:

producing a plurality of transmission data sequences

$S_{A,X}=(x_0A, 0\ldots0, x_1A, 0\ldots0, x_2A, 0\ldots0, \ldots, x_{m-1}A, 0\ldots0)$

$S_{B,Y}=(y_0B, 0\ldots0, y_1B, 0\ldots0, y_2B, 0\ldots0, \ldots, y_{m-1}B, 0\ldots0)$

...

(0 indicates a null time of a unit length where no signal is generated)

using a plurality of data sequences

$A=(a_0a_1\ldots a_{N-1})$, $B=(b_0b_1\ldots b_{N-1})$, ... and

a plurality of coefficient sequences

$X=(x_0x_1\ldots x_{m-1})$, $Y=(y_0y_1\ldots y_{m-1})$, ...; and

transmitting said plurality of transmission data sequences $S_{A,X}$, $S_{B,Y}$,... onto the same transmission line at the same time.

2. (Canceled).

3. (Canceled).

4. (Currently amended): The communication method according to claim 1 ~~or 2~~ wherein, in an arbitrary combination of said plurality of transmission data sequences, a finite number of transmission data sequences in the transmission data sequences have a range in which a non-periodic cross-correlation function is 0.

5. (Canceled).

6. (Currently amended): The communication method according to ~~one of claims 1, 2, and 4~~ claim 1 or 4 wherein said coefficient sequences are each formed by a unitary matrix.

7. (Canceled).

8. (Currently amended): The communication method according to ~~one of claims 1, 2, 4, and 6~~ claim 1 or 4 wherein at least one transmission data sequence selected from said transmission data sequences is used as a pilot signal for measuring multi-path characteristics, and

said pilot signal included in the transmission data sequences received via a transmission line has the multi-path characteristics of the transmission line.

9. (Currently amended): The communication method according to ~~one of claims 1, 2, 4 and 6~~ claim 1 or 4 wherein a plurality of transmission data sequences are produced using different coefficient sequences and

at least one transmission data sequence selected from said transmission data sequences is

used as a pilot signal with other transmission data sequences used as transmission signals, further comprising the steps of:

finding multi-path characteristics from the reception signal of the pilot signal included in the transmission data sequences received via a transmission line; and

producing the transmission data sequences obtained by removing the multi-path characteristics from the reception signal using the multi-path characteristics which are found.

10. (Canceled).

11. (Canceled).